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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR         | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|------------------------------|---------------------|------------------|
| 10/530,197   | 04/04/2005  | Francis Edward Charles Nurse | 101709.56096US      | 9590             |
| 23911  | 7590        | 08/14/2006                   | EXAMINER            |                  |
| CROWELL & MORING LLP<br>INTELLECTUAL PROPERTY GROUP<br>P.O. BOX 14300<br>WASHINGTON, DC 20044-4300 |             |                              |                     | JOHNSON, STEPHEN |
|  |             | ART UNIT                     |                     | PAPER NUMBER     |
|  |             | 3641                         |                     |                  |

DATE MAILED: 08/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                |                               |  |
|------------------------------|--------------------------------|-------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b>         | <b>Applicant(s)</b>           |  |
|                              | 10/530,197                     | NURSE, FRANCIS EDWARD CHARLES |  |
|                              | Examiner<br>Stephen M. Johnson | Art Unit<br>3641              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 July 2006.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-7 and 11-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-7 and 11-18 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

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1. The Replacement Sheet drawing filed on 7/27/2006 is approved.
2. Claims 1-5 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2 107 835 A (Vauchy).

Vauchy discloses a method of controlling the operation of a missile launcher comprising the steps of:

- a) firing a missile from a missile launcher; page 1, lines 40-44
- b) tracking the trajectory of the fired missile; page 1, lines 109-115
- c) calculating a predicted point of impact; page 1, lines 118-122;
- d) feeding back and applying the correction prior to page 3, lines 83-128;  
impact; and
- e) a tracking system. 2, 4, 11

3. Applicant's arguments are addressed as follows. It is argued that the invention relates only to projectiles having a flat trajectory. In response, note that even a relatively flat trajectory has some degree of arc and consequently an apogee. It is further argued that a detection surface is used to determine the deviation of the detected point from the obstacle axis. In response, note page 2, lines 69-81. Here it is discussed as to how the position of the projectile in relation to the optical axis of the sight is used to determine the position of the projectile at the moment of theoretical impact. It is further argued that Vauchy does not disclose predicting a point of impact immediately after the projectile reaches its apogee. In response, note that the calculation of Vauchy are done continuously from initial sighting to impact (see page 2, lines 61-81). This of course would include the moments immediately after the projectile reaches its apogee. It is further argued that the measurement is taken after the projectile has traveled over 95% of its

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theoretical trajectory. While this is accurate, it is only one suggested time for taking the measurement. Vauchy teaches taking the measurements continuously. Further, note that claim 3 only requires the calculation means to be operable immediately after missile apogee. It does not require that this measurement is taken immediately after missile apogee.

4. Claims 6-7, 11-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vauchy in view of Maughan et al. (329).

Vauchy applies as previously recited. However, undisclosed is a tracking system that is a radar tracking system. Maughan et al. teach a tracking system that is a radar tracking system (see abstract). Applicant is substituting one equivalent tracking system for another in an analogous art setting. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Maughan et al. to the Vauchy control system and associated method and have a control system and associated method with a different type of tracking system.

5. Applicant's arguments are addressed as follows. It is argued that the Maughan et al. reference is directed to a weapon used to hit a target while taking into account atmospheric conditions. This is accurate. However, note that Maughan et al. is being relied upon only for its teaching of an alternative type of tracking system (i.e. radar tracking). Vauchy is being relied upon to teach the other features of the claimed invention.

6. Applicant's arguments filed on 7/27/2006 with regard to Vauchy and Vauchy in view of Maughan et al. have been fully considered but they are not persuasive. These arguments have been addressed in the preceding paragraphs of this Office action.

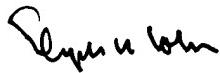
7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Johnson whose telephone number is 571-272-6877 and whose e-mail address is ([Stephen.Johnson@uspto.gov](mailto:Stephen.Johnson@uspto.gov)). The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The Central FAX phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 800-786-9199.



**STEPHEN M. JOHNSON  
PRIMARY EXAMINER**

Stephen M. Johnson  
Primary Examiner  
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SMJ

August 10, 2006